

361 to organize large-scale expeditions in order to attack a handful
[521] of widely scattered residences. Still, too much separation would
[522] have rendered each isolated household particularly vulnerable.
By way of compromise a system seems to have been worked out
whereby houses were erected within sight of one another. This
meant that by day smoke signals could be used for summoning
help in the event of a raid. The same proximity also gave assur-
[534] ance that at night the sound of the *kalball* could be heard. A
kalball is a simple wind instrument fashioned from a cow horn
and used like an army bugle. In case of danger a signal was
[542] blown, consisting of two long, two short, and a very long blast.
When this was heard men rushed to the nearest road to inter-
cept or attack any raiders. It is not improbable that the scarcity
of roads on the reservations also resulted from strategic con-
siderations, as it enabled local defenders to concentrate on a
limited number of points.

361 At the present time the settlement pattern seems to reflect
574 little more than cultural conservatism, combined with the desire
of each householder to live in private on his own particular
piece of property. The privacy of each residence is greatly re-
spected. Conventionally, no one ever enters the home of another
person without an express invitation. Inmates of a house are
made aware of a visitor by the barking of their dogs who rush
fiercely at a stranger; sometimes a child appears at the door to
discover who has come. From a safe distance the caller shouts,
[576] "Mari, mari, papai" ("A hundred [greetings] little grand-
mother!"), or a similar phrase. If the occupants so desire they
respond and invite the visitor to come in, but if there is no reply
the visitor is expected to go away even if he is aware that some-
one is home.

484 The modern Mapuche are not much given to long distance
travel. Short journeys may be made afoot, but men, in particu-
[492] lar, prefer to ride horseback on longer trips, and they are very
much at ease in the saddle. When women have to travel for a
● 493] considerable distance they generally ride in an oncart, with a
masculine relative or companion as driver. As was previously
491 stated, roads are virtually nonexistent inside a given reserva-

PLATE I

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492
493
857



FIG. 1. Young boy driving a cart.

23
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492
857



FIG. 2. Llama boys with men taking a newly plowed field.

[end plate I]

241
492



[313
493]



Transportation by means of oxen: 1. An unhitched pair of oxen, showing details of yoke (Alepú). 2. Hauling logs for firewood (Alepú). 3. Transporting a load of wheat (Collaripo).

[p. 172.(F)]

10: Hilger E-9 (1946-1952) 1957

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Sheep, and transportation: 1. A flock of sheep in Colaripa. 2. Transportation by cart (Alpaca). (Note wheel of tree-trunk sections.) 3. Dog-out used in transporting persons across the Rio Llanquihue in Colaripa.

[p. 172 (G)]

WHEELS VII. GRASSHOPPER WHEELS—HILGERT

705

People use grasshopper wheels for the different things which are
they are available. (Pl. 20, 2: 40, 2.) Sometimes a man makes his
own cart; just as often he has it made by another for "one must
have both intelligence and implements with which to make them."
In all areas, most carts were made of cross sections of tree
trunks. A Colaptes man, who made his own cart used cross sections
of laurel wood. "The radius of the tree," he stated, "will tell how
high the cart will stand above the ground. It is important to note this,
for the middle of the cart is balanced on the wheels. One must think
of these deep runs in the trails on rainy days; everything on the cart
can get muddy if the wheels are too low; and the load can spill out
if the cart is dragged along on its axle. It took me two days to make
the two wheels." Each wheel was 31 inches in diameter and 6 inches
wide; the hub was 8 inches in diameter. The length of his entire cart
was 16 feet; its greatest width, near the back end, 4 feet. Parts were
fastened together with vepel of collado (balsa); no nails were used.
Two long pieces of wood, to which boards forming the platform of
the cart were fastened, extended forward and formed the shaft. When
hitching the oxen to a cart, their horns are fastened to the shaft with
leather straps; the yoke is then fastened close to the end of the shaft
(pl. 20, 2). Since oxen will follow an oxen trail, the driver usually
sits in the cart urging slow-moving oxen on by poking their sides
with a pole. Off the trail, however, the driver leads the oxen by
walking in front, holding a pole, one end of which he rests on the
yoke. (Pl. 20, 2 and 3.) If he wishes the oxen to turn right, he taps
the yoke on the right with the pole; if to the left, on the left of
the yoke.

A log is hitched with chains or leather straps to the yoke of a pair
of oxen and thus dragged to its destination between the oxen (pl.
20, 2).

Cooper's sources (1946, pp. 713-715) report three chief types of
water craft: the plank boat, the dugout, and the balsas. All were more
or less crescent or new-moon shaped, with raised and pointed bow
and stern. Plank boats were lashed together with fiber rope (of
Chaquepa sp.) and caulked with leaves of tiam and the inner bark
of maguey. Dugouts were paddled, or driven by sails when the wind
was favorable. Balsas were cigar-shaped bundles of various kinds of
reeds, lashed with ropes made of vepel. Other balsas, very light and
buoyant, apparently rafts proper, were made of *Puyo* sp., *Libocedrus*
chilensis (ciprés), or *Laurelia aromatica* (laurel comén). All three
types of water craft were seen during the present study, but none was
crescent shaped. The plank boat with sails, called fote (probably
adapted from the Spanish bote), was used in Alpeje area when fishing

438. Chief backward or still, were deep, eggshaped, oval, body open part, sometimes left, flat, round, pushed, brown, eggs, and horns of goat and by birds in making a winding bridge. A deep or a hand-carrying bag brought 30 pesos; an ox, 1,000 pesos; a 2-year-old hand-carrying bag, 30 pesos. (The exchange was 10 pesos for one U. S. dollar at the time.) Money was also obtained by selling horses to tourists, and by leading horses and wool by means of men. Families who received cash or payment in kind for labor, such as farm work, shearing cattle, and domestic work done for non-Argentines in villages or on estates. Several families migrated to Chiquilichan each fall to gather amaranth seeds there; that sold for 30 centavos to 1 peso per kilo.

TRANSPORTATION

442. When informants were children, horses were already being used to transport both persons and baggage. (Cf. pp. 474-475 for manner of transporting babies and small children.) Adults used riding gear; children rode bareback. Most men, and an occasional woman, had riding gear ornamented in silver. A riding horse that had its tail trimmed off to the end of the hock was considered handsome, but in truth it was of less value than one with a complete tail. Whips made by braiding strands of leather were used by adults; children used twigs.

443. The introduction of the motor was vividly recalled by the older informants. Formerly all motor wheels were cross sections of tree trunks; today wagon wheels are also used (pl. 75, 7).

444. Snowshoes, known as *chigua*, were used when the snow was ankle deep; if less deep the *ojata* (trace), the commonly worn foot covering, sufficed. *Chigua* were made by tying together the ends of a cattail stalk to form an oval-shaped band and then weaving a network in it with strips of horsehide. The *chigua* was tied to the foot with two bands of woven material: one was brought over the instep and the other from behind the heel to the front of the ankle.

346. All persons, including children, crossed lakes and rivers in dugouts called *wampos*. The trunk of the tree known as *rauli* was preferred in making *wampos*. A spindle-shaped one in Museo Nahuel Huapi is 8½ feet long, 3 feet wide, 11 inches deep, and 1 inch thick. Men also crossed rivers or floated down streams that connected lakes on rafts called *tapi*. These were built on the spot and usually left on shore for anyone to use. Three or four trees, about a foot in diameter, were felled, and approximately 6 yards of the trunk of each laid side by side. Across them, close to the front ends and at right angles to them,

10. Major E-1 (1946-1952) 1957

BOA Argentina BOA
Argentina

10. Major E-1 (1946-1952) 1957

BOA Argentina BOA



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1. Wooden floor (Trench). 2. Cement with cross-drain section which (Q-
1000). 3. A line (should be area) in which water is directed by running
pipes (M-100).

[p. 364(C)]

443
[452] rain. Interest rates are sometimes in excess of 100 per cent. For the most part, the Mapuche are ill at ease and naïve in market and credit operations.

[438] Markets are available to all reservation Mapuche, although the Indians near the provincial capital, Temuco, and the larger secondary towns have stronger ties to the regional markets and are more frequently involved in a greater-than-reservation economic structure.

496 The railroad which runs through the Central Valley from north to south, and the several branch lines running east and west, service the Mapuche areas. In addition, there are a number of all-weather roads connecting the reservations with the regional markets. The 491
243 remoter reservations are linked to the better roads, where trucks and 487 buses are available, by ox roads and foot trails which, for the most part, are not passable in the wet winter months. Because of poor transportation, for example, Mapuche are sometimes unable to sell [434] firewood during the winter months, at a time when their food reserves [433] are ebbing, cash is much needed, and there is a demand for firewood in the towns.

439 As a rule, Mapuche tend to sell garden produce, apples, barnyard fowl, a few pigs and sheep for the purpose of obtaining small amounts of cash for immediate use. There is always a seasonal abundance, but [485] little or no thought of stretching it out over the year. This results in [433] the paradox of postharvest surpluses in an economy of bare subsistence. These sales, however, enable the Indians to buy lard, kerosene, pots, plates, knives, etc., and "luxuries" such as matches, mate [511] (Paraguayan "tea"), cigarettes, wine, clothing, and other items which [437] represent rather newly acquired needs. One sees both men and women carrying their wares to town on trucks and buses or in oxcarts. A [413] single chicken may be carried more than 20 kilometers and sold to make a small cash purchase.

452 Credit is scarce. For most purchases, the Mapuche is required to [437] pay *al contado*, or cash on the barrelhead. This is especially so for small purchases, such as the items listed above, for there are very few storekeepers who are willing to keep credit accounts for Mapuche. Shopkeepers regard them as poor risks either because they are felt to be generally untrustworthy or because they are too poor to be able to liquidate their credit within a reasonably short time.

[432] Nevertheless, Mapuche are able to raise cash or obtain seeds through credit negotiations under certain circumstances. Agents from the towns make a tour of the country in the preharvest season to in-